

*IN THE CLAIMS:*

Replace the indicated claims with:

1. (Amended) A trace circuit built into a debugging circuit that is, in turn, built into a microcomputer for program debugging, said trace circuit tracing data on a bus of the microcomputer according to a bus clock signal and outputting a result to an emulator, said trace circuit comprising:

plural trace buffer memories in which the data on the bus of the microcomputer is stored according to the bus clock signal; and

a control circuit storing the data on the bus in said trace buffer memories, cyclically and in a predetermined order, outputting the data stored in said trace buffer memories, cyclically, and in a predetermined order, wherein the storage of data in and output of data from said trace buffer memories is synchronized with the bus clock signal; and

an output terminal through which the data stored in said trace buffer memories is output to the emulator.

2. (Amended) The trace circuit according to claim 1, wherein said control circuit checks the number of bits of the data on said bus, and, if the number of bits of the data on said bus is no larger than a predetermined value, said control circuit stores the data on the bus in only some of said trace buffer memories, and outputs the data stored in said trace buffer memories, cyclically and in predetermined order.

4. (Amended) The trace circuit according to claim 1 further comprising a bit width conversion circuit connected between said trace buffer memories and said output terminal, wherein said bit width conversion circuit changes a bit width of the data to be output from said output terminal based on bit width of the emulator.

5. (Amended) The trace circuit according to claim 1 further comprising output latch circuits in a number equal to the number of said trace buffer memories and connected between respective trace buffer memories and said bit width conversion circuit, wherein said output latch circuits latch outputs of said trace buffer memories.

6. (Amended) A trace circuit built into a debugging circuit that is, in turn, built into a microcomputer for program debugging, said trace circuit tracing data on a bus of the microcomputer according to a bus clock signal and outputting a result to an emulator, said trace circuit comprising:

two trace buffer memories in which the data on the bus of the microcomputer is stored according to the bus clock signal; and

a control circuit storing the data on the bus in said trace buffer memories cyclically and alternately, outputting the data stored from said trace buffer memories cyclically and alternately, wherein the storage of data in and output of data from said trace buffer memories is synchronized with the bus clock signal; and

an output terminal through which the data stored in said trace buffer memories is output to the emulator.

7. (Amended) The trace circuit according to claim 6, wherein said control circuit checks the number of bits of the data on the bus, and, if the number of bits of the data on the bus is no larger than a predetermined value, said control circuit stores the data on the bus in only some of said trace buffer memories, and outputs the data stored in said trace buffer memories, cyclically and in predetermined order.

9. (Amended) The trace circuit according to claim 6 further comprising a bit width conversion circuit connected between said trace buffer memories and said output terminal, wherein said bit width conversion circuit changes a bit width of the data to be output from said output terminal based on bit width of the emulator.

10. (Amended) The trace circuit according to claim 6 further comprising two output latch circuits respectively connected between said two trace buffer memories and said bit width conversion circuit, wherein said output latch circuits latch outputs of said trace buffer memories.

*IN THE ABSTRACT:*

Replace the Abstract with:

ABSTRACT OF THE DISCLOSURE

A trace circuit includes the event control circuit and two trace buffer memories. The event control circuit receives data on a control bus, an address bus, and data a bus and stores the data cyclically and alternately in the two buffer memories. Also, the event control circuit makes the two buffer memories output the stored data cyclically and alternately.